

Claims

1. An object striking implement having a tubular handle, an object striking portion affixed to said handle and a resilient vibration damper having a first portion positioned in and engaged with said handle, said vibration damper having an undistorted shape and a distorted shape which differs from said undistorted shape when said damper is positioned in said handle, said damper having a second portion free to vibrate inwardly of said handle in a direction transverse to a longitudinal axis of said handle, said first portion being distorted and axially spaced from said second portion.

2. The implement of claim 1, wherein said damper comprises a first elongated member having a distorted shape which generally comprises a U having legs which extend generally parallel to a central axis of said handle.

3. The implement of claim 2, wherein said damper further comprises a second elongated member having a distorted shape which generally comprises a U having legs which extend generally parallel to said axis.

4. The implement of claim 3, wherein said legs of said first elongated member extend toward a handle end of said implement and said legs of said second elongated member are remote from said handle end.

5. The implement of claim 4, wherein at least some of said legs contact said handle when said implement is in a static condition.

6. The implement of claim 5, wherein said members comprise an elastomer or synthetic elastomer having a specific gravity of not less than 0.75 .

7. The implement of claim 5, wherein said members comprise an elastomer or synthetic elastomer have a Shore durometer hardness in the range of from 5A through 60D.

8. The implement of claim 5, wherein said tubular handle has a substantially constant inner diameter and said members have an undistorted cross-section comprising an ellipse which has a major axis which equals approximately half of said inner diameter.

9. The implement of claim 8, wherein said legs are circumferentially spaced from each other in said handle.

10. The implement of claim 9, further comprising a stopper positioned in said implement to limit movement of said members axially of said handle.

11. The implement of claim 10, wherein said stopper is positioned from a proximal end of said handle a distance greater than the axial distorted length of said members.

12. The implement of claim 11, wherein said members are positioned in said handle to permit movement of said legs without contact between said first member and said second member.

13. The implement of claim 12, wherein said implement is a ball bat.

14. An object striking implement having a tubular handle, an object striking portion and a resilient vibration damper having a first portion positioned in and engaged with said

handle, said vibration damper having an undistorted shape and a distorted shape when said damper is positioned in said handle which differs from said undistorted shape, said damper having elongate second and third portions each having an end free to flex in a direction transverse to a longitudinal axis of said handle, said first portion being axially positioned between and spaced from said second and said third portions.

15. The implement of claim 14, wherein said first portion is cylindrical and said second and third portions are arcuate and have at least one end which contacts said handle when said implement is in a static condition.

16. The implement of claim 15, wherein said handle has a substantially constant inner diameter and second and third portions have a circular cross-section having a diameter equal to about half said inner diameter of said handle.

17. The implement of claim 16, wherein said damper comprises an elastomer or synthetic elastomer having a specific gravity of not less than 0.75 .

18. The implement of claim 16, wherein said damper comprises an elastomer or synthetic elastomer have a Shore durometer hardness in the range of from 5A through 60D.

19. The implement of claim 18, wherein said implement comprises a ball bat.

20. An object striking implement having a tubular handle having an enlarged portion, an object striking portion affixed to said handle and a resilient vibration damper having a first portion positioned in and engaged with said handle, said vibration damper having an

undistorted shape and a distorted shape which, when said damper is positioned in said handle, differs from said undistorted shape, said damper having a second portion free to flex in said enlarged portion of said handle in a direction transverse to a longitudinal axis of said handle, said first portion being axially spaced from said second portion.

21. The implement of claim 20, wherein said damper has an undistorted shape substantially comprising a toroid.

22. The implement of claim 21, wherein said damper comprises an elastomer or synthetic elastomer having a specific gravity of not less than 0.75.

23. The implement of claim 22, wherein said damper comprises an elastomer or synthetic elastomer having a Shore durometer hardness in the range of from 5A through 60D.

24. The implement of claim 23, wherein said implement comprises a ball bat.

25. An object striking implement having a tubular handle, an object striking portion affixed to said handle and a vibration damper having a support portion affixed in said handle and a resilient damping portion flexibly connected to said support portion, said damping portion being arcuately moveable inwardly of said handle in a direction generally transverse to a longitudinal axis of said handle, said damping portion being compressible to cushion contact of said damping portion with said handle.

26. The implement of claim 25, wherein said damper is made entirely of resilient material.

27. The implement of claim 26, wherein said vibration damper has an undistorted shape and a distorted shape which differs from said undistorted shape when said damper is positioned in said handle.

28. The implement of claim 27, wherein said damper comprises a first elongated member having a distorted shape which generally comprises a U having legs which extend generally parallel to a central axis of said handle.

29. The implement of claim 28, wherein said damper further comprises a second elongated member having a distorted shape which generally comprises a U having legs which extend generally parallel to said axis.

30. The implement of claim 29, wherein said legs of said first elongated member extend toward a handle end of said implement and said legs of said second elongated member are remote from said handle end.

31. The implement of claim 30, wherein at least some of said legs contact said handle when said implement is in a static condition.

32. The implement of claim 31, wherein said members comprise an elastomer or synthetic elastomer having a specific gravity of not less than 0.75 .

33. The implement of claim 31, wherein said members comprise an elastomer or synthetic elastomer have a Shore durometer hardness in the range of from 5A through 60D.

34. The implement of claim 31, wherein said tubular handle has a substantially

constant inner diameter and said members have an undistorted cross-section comprising an ellipse which has a major axis which equals approximately half of said inner diameter.

35. The implement of claim 34, wherein said legs are circumferentially spaced from each other in said handle.

36. The implement of claim 35, further comprising a stopper positioned in said implement to limit movement of said members axially of said handle.

37. The implement of claim 36, wherein said stopper is positioned from a proximal end of said handle a distance greater than the axial distorted length of said members.

38. The implement of claim 37, wherein said members are positioned in said handle to permit movement of said legs without contact between said first member and said second member.

39. The implement of claim 38, wherein said implement is a ball bat.